

Docket No.  
448563/0217

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: **Kazuhiro Hashii, et al.**

Group Art Unit: **2861**

Application No.: **10/649,806**

Examiner: **Not Yet Known**

Filed: **August 26, 2003**

For: **INK CARTRIDGE AND RECORDING APPARATUS**

Date: **March 22, 2004**

**CERTIFICATE OF MAILING**  
**BY "FIRST CLASS MAIL" (37 C.F.R. § 1.8)**

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

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I hereby certify that the following correspondence:

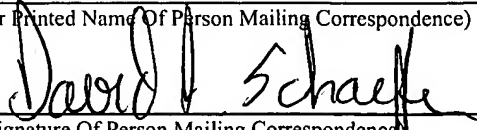
**Return Postcard; Petition to Make Special Under 37 C.F.R. § 1.102 (2 pgs); Statement Regarding Pre-Examination Search (Including Discussion of References) (11 pgs); Preliminary Amendment (11 pgs); Information Disclosure Statement (2 pgs); PTO/SB/08A-B (2 pgs); 6 References and a European Search Report**

is being deposited on March 22, 2004 with the United States Postal Service as first class mail in an envelope bearing sufficient postage thereon and addressed to:

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**PETITION TO MAKE SPECIAL UNDER 37 C.F.R. § 1.102**

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Applicants respectfully request that the above-identified application be made Special and advanced out of turn for Examination.

This Petition is submitted pursuant to 37 C.F.R. § 1.102 and M.P.E.P. § 708.02(VIII) ("SPECIAL EXAMINING PROCEDURE FOR CERTAIN NEW APPLICATIONS - ACCELERATED EXAMINATION").

Applicants submit the following items in accordance with the provisions of M.P.E.P. § 708.02(VIII):

- This Petition, which includes below an authorization to charge the required fee set forth in 37 CFR 1.17(h) to the undersigned's deposit account;
- The accompanying Statement Regarding Pre-Examination Search;
- One copy each of the references deemed most closely related to the subject matter encompassed by the claims; and

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**STATEMENT REGARDING PRE-EXAMINATION SEARCH  
(INCLUDING DISCUSSION OF REFERENCES)**

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

Sir:

Applicants submit this paper in support of the accompanying Petition to Make Special Under 37 C.F.R. § 1.102. That petition is also submitted pursuant to M.P.E.P. § 708.02(VIII) ("SPECIAL EXAMINING PROCEDURE FOR CERTAIN NEW APPLICATIONS - ACCELERATED EXAMINATION").

This paper provides the Statement Regarding Pre-Examination Search and Discussion of references that is required by M.P.E.P. § 708.02(VIII).

**STATEMENT REGARDING PRE-EXAMINATION SEARCH**

The requirement for a pre-examination search for the subject application is satisfied by the accompanying partial European Search Report dated December 8, 2003, and sent to Applicants in European Patent Application No. 03 019 652.1, which is a counterpart to this application.<sup>1</sup>

<sup>1</sup> M.P.E.P. § 708.02(VIII) states, in pertinent part, that "A search made by a foreign patent office satisfies this requirement".

The European Search Report is directed only to claims 1-42 of the European patent application (claims 43-80 were not searched). Applicants confirm that claims 1-42 of the European application correspond to claims 1-42 in this case.

The present application contains only claims 1-42; claims 43-80 have been cancelled in the accompanying Preliminary Amendment.

According to the European Search, the counterpart application was classified in international class/subclass B41J2/175 ("Ink supply systems; [N: Circuit parts therefor]").

The technical field searched for the counterpart application was B41J, which is defined as follows:

TYPEWRITERS; SELECTIVE PRINTING MECHANISMS, [N: e.g. INK-JET PRINTERS, THERMAL PRINTERS], i.e. MECHANISMS PRINTING OTHERWISE THAN FROM A FORME; CORRECTION OF TYPOGRAPHICAL ERRORS (composing B41B; printing on special surfaces B41F; laundry marking B41K; erasers, rubbers or erasing devices B43L19/00; fluid media for correction of typographical errors by coating C09D10/00; recording the results of measuring G01; recognition or presentation of data, marking record carriers in digital fashion, e.g. by punching, G06K; franking or ticket-printing and issuing apparatus G07B; electric keyboard switches, in general H01H13/70, H03K17/94; coding in connection with keyboards or like devices, in general H03M11/00; receivers or transmitters for transmission of digital information H04L; transmission or reproduction of documents, or the like, e.g. facsimile transmission, H04N1/00; printing mechanisms specially adapted for apparatus, e.g. cash registers, weighing machines, producing records of their own performance, see the relevant subclasses)"  
B41J

The references cited in the European Search Report, as well as a number of other references also discussed in this paper, have been cited in the Information Disclosure Statement filed herewith. In accordance with M.P.E.P. § 708.02(VIII), copies of those references and the Search Report have been provided.

Applicants respectfully assert that these references do not teach or suggest the present invention and, as also required by M.P.E.P. § 708.02(VIII), a discussion of the most

pertinent references follows. This statements is directed to the references found in the  
aforementioned European search report, as well as other references known to Applicants.

### **DISCUSSION OF REFERENCES**

This discussion of references will first address U.S. patents and applications, and  
then non-U.S. documents. These items are discussed in their order of publication.

Applicants' invention, as described in claim 1, is directed to an ink cartridge that,  
when used, is mounted on a recording apparatus having a pressing member and a receiving part.  
The ink cartridge includes an ink container with an upper wall, a bottom wall, a first side wall  
intersecting the bottom wall and a second side wall intersecting the bottom wall and facing the  
first side wall, an ink supply port disposed on the bottom wall at an offset position closer to the  
first side wall than to the second side wall, a first projecting portion disposed on the second side  
wall and located closer to the bottom wall than to the upper wall, the first projecting portion  
having a plurality of side portions for being restricted in position when the ink cartridge is  
mounted on the recording apparatus, and a pressed portion disposed on the second side wall, the  
pressed portion having an upper surface for being pressed by the pressing member of the  
recording apparatus. In addition, a retaining member engageable with the receiving part of the  
recording apparatus when the ink cartridge is mounted on the recording apparatus and electrodes  
disposed on the first projecting portion and electrically connected to a memory unit disposed on  
the ink container are provided.

#### **US Patent 6,155,678**

This reference is cited in the European Search Report as providing technological  
background for the claimed invention.

The '678 patent is directed to a replaceable ink cartridge for an ink jet pen comprising a cartridge body and an ink cartridge which is removably positionable on the cartridge body. The ink cartridge has a displaceable projection (seen in Figs. 1, 2 and 4 as latch member 84) which is received in the cartridge body, as shown in Figs. 1 and 2. Thus, it will be appreciated that the ink tank fits into the cartridge body, which cartridge body then is mounted on the recording apparatus.

This is different from the present invention, which does not require an independent cartridge body. Instead, the ink cartridge of the present invention comprises an ink tank and a plurality of electrodes fixedly attached thereto, and interacts directly with the recording apparatus without an intermediary. Accordingly, Applicants respectfully assert that the present invention is patentable over the '678 patent.

#### **US Patent 6,276,780**

Patent No. 6,276,780 is directed to an ink jet cartridge and carriage in which, during cartridge installation, a projection at the rear, lower corner of the ink cartridge is received in an opening under a retainer bar in the carriage. This structure means that, during installation, the cartridge pivots about the projection or rotates until the upper corner of the cartridge, diagonally across from the projection, is fully displaced and slips under a latch, as can be seen in Figs. 3, 9 and 16.

Moreover, although the '780 patent shows a cartridge having a projection (210 in Fig. 3), it should be noted that there is no suggestion of a retaining member, much less a retaining member as claimed.

While the '780 patent mentions that ink tanks can be provided with indicia readable by a code reader to determine various characteristics of the ink tanks, the ink cartridge

does not have any intelligence in the form of an electronic memory device. This means the '780 patent cannot suggested the electrodes arranged in the manner of claim 1 of this application, on the first projecting portion.

**US Patent 6,460,984**

U.S. Patent No. 6,460,984 involves an ink cartridge with a latching arm having a projection that cooperates with structure on the printer's carriage to secure the cartridge, as can be seen in Fig. 1. During installation, a projection on the cartridge is received by a corresponding hole in the carriage, as can be seen in Fig. 3A.

This structure does not have any intelligence in the form of a electronic memory device. Consequently, the '984 patent in no way suggests the use of electrodes arranged in the manner of claim 1 of this application, on the first projecting portion.

**US Patent Appln. Publication 2002/0085075**

This publication teaches an ink container having a parallelepipedal shape in which an electrode group is disposed on one surface of the container.

As can be seen in Fig. 3, the ink container is held in position in a very different manner than the claimed invention. As shown in Fig. 3, the container is pressed on its top surface by a cover (a loading lever). According to this publication, since the ink cartridge is held at the predetermined position of the holder by the pressing force of the loading lever, the structure of the loading lever must be arranged to insure reliable contact with the electrode group, which may complicate the structure of the cartridge.

It is also noted that this reference does not teach a projection located in the manner of the claimed invention, much less that the projection have contacts as claimed.

**US Patent Appln. Publication 2002/0158948**

This reference teaches an ink cartridge with a memory with multiple electrodes and an ink supply port arranged to be located closer to a leading end side. The reference states at paragraph 44 that a memory device is provided under the retaining member located closer to the ink supply port. In contrast, in this invention the ink supply port is arranged to be closer to the side *opposite* from the side having the electrodes and the memory unit.

As depicted in Figs. 2A-6B, while this reference has a retaining member, projecting portion and contacts, they are not arranged in the manner claimed. According to claim 1, the projecting portion is located on the second side wall and includes electrodes connected to a memory unit, and the second side wall also has a pressed portion,

In contrast, as shown in the '948 application, the contacts are not located on a projection. This means the reference does not suggest the claim feature providing for electrodes located on the first projecting portion.

Also, while there is arguably a projection on the other wall of the cartridge shown in this reference, that wall does not have a pressed portion that is pressed by a pressing member of the recording apparatus.

Finally, while Fig. 20 shows contacts 7a formed on a projection 7, it is not clear that the projection has side portions that are restricted in position when the cartridge is mounted, as is discussed in claim 1.

**EP Patent Publication 0 822 084**

The '084 reference discloses several embodiments of an ink jet recording head, all of which have a holder member that receives ink tanks, as well as the recording device substrate, which itself includes recording elements driven through electrical contacts.

As shown in Figs. 5, 9, 12A-D, 13-15 and 19A-C, for example, the ink tanks are mounted in the holder member by a combination of a movable arm which engages an opening in the holder member and one or more projections which are received in corresponding openings in the holder member.

However, there is no mention of a memory device or contacts for the memory device, much less that the contacts for the memory device can be arranged on the projection, as is claimed.

**EP Patent Publication 0 956 958**

This reference is cited in the Search Report as providing technological background for the claimed invention, and it is said that the reference is cited in the application.

It should be noted that this reference has the same priority documents as U.S. Patent No. 6,460,984, already distinguished from the present invention (slightly different numbering sequences are used in the two documents, but the priority applications clearly are the same). Consequently, this reference can be distinguished from the claimed invention for the grounds already given with regard to the '984 patent.

The '958 application involves an ink cartridge with a latching arm having a projection that cooperates with structure on the printer's carriage to secure the cartridge, as can be seen in Fig. 1 and other drawings. During installation, a projection on the cartridge is received by a corresponding hole in the carriage, as can be seen in Fig. 3A.

However, this structure does not have any intelligence in the form of an electronic memory device. Consequently, the '958 reference cannot suggest the use of electrodes arranged in the manner of claim 1 of this application, on the first projecting portion.

**EP Patent Publication 0 997 297**

This reference has many of the same teachings as US 2002/0085075, already discussed. For example, as shown in Figs. 3, 8, 9, 12a, 13, 14a and 15, there is no projecting portion, much less a projecting portion as claimed, with side portions that are restricted in position when the ink cartridge is mounted.

In fact, since this reference teaches the memory device and contacts are located in a recess (Figs. 6a-b, 8 and 9; col. 5, lines 42-47) this teaches away from the claimed invention, which provides the contacts on a projection.

Also, as can be seen in Fig. 3 and other side views, there is no teaching in this reference of a retaining member that is part of the ink container and which engages a receiving part of the recording apparatus when the container is mounted. As shown in Fig. 3, none of the structure of the cartridge is engaged by the recording apparatus. For example, during use the overhang 46 is not engaged by the hooks 16 and 17 of the cover 14; engagement occurs only when the cartridge is removed.

**EP Patent Publication 1 114 726**

This publication appears in the Search Report and is cited as providing technological background for the claimed invention.

This reference includes teachings that are similar to those of EP Patent Publication 0 997 297 and US 2002/0085075, both already discussed. For instance, as shown in Figs. 6, 11, 19 and 23-27, there is a memory device and contacts which are located in a recess, not on a projection. Consequently, this teaches away from the claimed invention, which provides for a projection having a surface parallel to the wall from which it projects, with electrodes connected to the memory unit being located on the surface.

Also, there is no disclosure of a retaining member that is part of the ink container and which engages a receiving part of the recording apparatus when the container is mounted. As shown in Figs. 19 and 23-27, the overhang 8e is not engaged by the hook 42a of the cover; engagement occurs only when the cartridge is removed.

**International Patent Publication WO 01/54910**

As can be seen in Figs. 6a-d, 7, 9a-c and 12a-13c, this reference has a memory with contacts located flush on the surface of one wall, as well as projections extending outward from that wall. However, the contacts are not located on those projections - rather, the memory device and contacts lie between the projections.

A lever biased in the hinging-open direction is provided on the other wall surface.

Further, since installation of the ink container shown in this reference requires the container to be pivoted about a point as the ink container is attached to the ink container receptacle, there is also a problem in that, when the flow path forming member for engaging the ink supply port is long in length, a large bending force is applied to the flow path forming member, which can break or damage the flow path forming member and damage a packing located in the ink supply port.

Also, while there are arguably projections on one side of the ink container, this still does not suggest side portions that are restricted in position when the ink cartridge is mounted, as is claimed.

**EP Patent Publication 1 247 651**

This reference appears in the Search Report and is said to be relevant if taken alone.

It should be noted that this reference has the same priority documents as U.S. Patent Appln: Publn. No. 2002/0158948, already distinguished from the present invention. As explained below, this reference therefore also can be distinguished from the claimed invention for the grounds already given.

This reference teaches an ink cartridge with a memory with multiple electrodes and an ink supply port arranged to be located closer to a leading end side. The reference states at paragraph 19 that a memory device is provided under the retaining member located closer to the ink supply port. In contrast, in this invention the ink supply port is arranged to be closer to the side *opposite* from the side having the electrodes and the memory unit.

As depicted in Figs. 2A-6B, although this reference has a retaining member, projecting portion and contacts, they are not arranged in the manner claimed. According to claim 1, the projecting portion is located on the second side wall and includes electrodes connected to a memory unit, and the second side wall also has a pressed portion,

In contrast, as shown in various figures of the '651 publication, the contacts are not located on a projection. This means the reference does not suggest the claim feature providing for electrodes located on the first projecting portion.

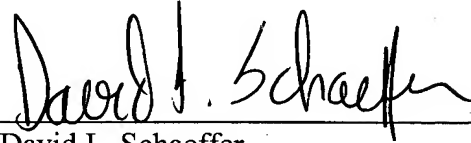
Also, while there is arguably a projection on the other wall of the cartridge shown in this reference, that wall does not have a pressed portion that is pressed by a pressing member of the recording apparatus.

Finally, while Fig. 20 shows contacts 7a formed on a projection 7, it is not clear that the projection has side portions that are restricted in position when the cartridge is mounted, as is discussed in claim 1.

**CONCLUSION**

Applicants respectfully submit that the claimed invention patentably distinguishes over the references discussed above. Consequently, favorable consideration and prompt allowance of the subject application are earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, reading "David L. Schaeffer", is written over a horizontal line.

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